NTSB ID: WPR09FA154

Aircraft Registration Number: N2698Y

Occurrence Date: 03/17/2009

Most Critical Injury: Fatal

Occurrence Type: Accident

Investigated By: NTSB

Location/Time

Nearest City/Place State Zip Code Local Time Time Zone
Townsend MT 59644 1445 MDT

Airport Proximity: Off Airport/Airstrip Distance From Landing Facility:

Aircraft Information Summary

Aircraft Manufacturer Model/Series Type of Aircraft

CESSNA 180F Airplane

Revenue Sightseeing Flight: No Air Medical Transport Flight: No

Narrative

Brief narrative statement of facts, conditions and circumstances pertinent to the accident/incident:

HISTORY OF FLIGHT

On March 17, 2009, about 1445 mountain daylight time, a Cessna 180F airplane, N2698Y, was substantially damaged when it impacted terrain while maneuvering near Townsend, Montana. The airplane was registered to Mountain Flying, LLC of Helena, Montana and operated by the pilot under the provisions of Title 14 Code of Federal Regulations Part 91. The airline transport pilot, sole occupant of the airplane, was killed. Visual meteorological conditions prevailed in the area of the accident and no flight plan was filed for the personal flight. The cross-country flight originated from the Gallatin Field Airport, Bozeman, Montana, about 1411 with an intended destination of Helena, Montana.

Family members of the pilot contacted the Federal Aviation Administration (FAA) on the evening of March 17, 2009, after becoming concerned when the pilot had not arrived at his intended destination. The FAA subsequently issued an Alert Notification. The Montana Aeronautics Division and United States Air Force, and the United States Customs and Border Protection commenced search and rescue operations throughout the area of the pilot's intended flight path. The wreckage was located by aerial units on the morning of March 19, 2009.

A witness located about 2 miles northeast of the accident site reported that on March 17, while watching two people trespass on private property, he observed a high wing airplane similar to the accident airplane flying on a northerly heading, west of a set of power lines that were adjacent to a main railroad crossing. The witness stated that the tops of the wings were below the power lines and he estimated the airplane was 20 to 30 feet above the ground traveling at a high rate of speed. He added that the airplane was low enough, that it spooked a herd of elk near the airplane's flight path. The witness continued watching the airplane as it pitched up and to the left, making a 180-degree turn near the Kelly Gulch area to a southerly heading. He added that as the airplane pitched up, he was able to see the tops of the wings. The witness further stated that he stopped watching the airplane to continue observing the trespassers.

There were no known witnesses to the accident sequence.

PERSONNEL INFORMATION

The pilot, age 64, held an airline transport pilot certificate with airplane single-engine land, multi-engine land, and instrument airplane ratings. The pilot also held a flight instructor certificate with airplane single-engine, multi-engine, and instrument ratings. A first-class airman medical certificate was issued March 18, 2009, with the limitations stated "must wear corrective lenses and possess glasses for near and intermediate vision." The pilot reported on his most recent airman's medical application that he had accumulated 20,045 total flight hours. The pilot's personal logbooks were not located during the course of the investigation.

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Narrative (Continued)

AIRCRAFT INFORMATION

The four-seat, high-wing, fixed-gear tailwheel equipped airplane, serial number (S/N) 18051198, was manufactured in 1962. It was powered by a Teledyne Continental Motors IO-520-D (142), serial number 632509-R. The engine was modified to an O-520-F, rated at 280 horse power and equipped with a three bladed Hartzell constant speed propeller. According to FAA records, the pilot had recently purchased the airplane on December 30, 2008.

Review of copies of maintenance logbook records showed an annual inspection was completed on August 1, 2008, at a recorded tachometer reading of 221.3 hours, airframe total time of 5,221.3 hours, and engine time since major overhaul of 221.3 hours. The digital tachometer was intact and not examined to determine its current readings.

A logbook entry dated June 13, 2006, stated in part "0.00 hours since factory rebuilt. Converted engine from IO-520-D to IO-520-D-C-F by installing a "F" fuel system. Reference TCM Service Bulletin M75-6, Rev 1 and TCM IO-520 parts manual. Modified engine from TCM IO-520-D-C-F to Texas Skyways O-520-F/TS."

METEOROLOGICAL INFORMATION

A review of recorded data from the Automated Surface Observing System (ASOS), located at the Helena Regional Airport (HLN), Helena, Montana, revealed that at 1453, conditions were wind from 260 degrees at 18 knots, gusts to 25 knots, visibility 10 statute miles, few clouds at 4,800 feet above ground level (agl), overcast cloud layer at 5,500 feet agl, temperature 4 degrees Celsius, dew point -7 degrees Celsius, altimeter setting of 30.13 inches of Mercury, remarks peek wind gust from 260 degrees at 28 knots at 1420.

The ASOS at the Gallatin Field Airport, Bozeman, Montana, reported at 1456, wind from 100 degrees at 5 knots, visibility 10 statute miles, broken cloud layer at 6,000 feet agl, temperature 6 degrees Celsius, dew point -4 degrees Celsius, and an altimeter setting of 30.11 inches of Mercury.

According to a witness located adjacent to the accident site, around the time of the accident, he observed a storm over the mountain range west of the accident site with visible snow precipitation. He also stated that there was about 6 to 7 inches of snow on the ground in the area of the accident and the wind was about 5 to 10 miles an hour.

WRECKAGE AND IMPACT INFORMATION

Wreckage debris and numerous broken tree limbs were scattered about 600 feet along an approximate 355-degree magnetic heading from a cluster of scraped and broken trees, about 15 to 20 feet in height, within the bottom of a mountain drainage. A separated section of the inboard left wing and an outboard section of the left aileron were lodged in a damaged tree near the initial point of contact. A circular impression was observed on the separated portion of the left wing structure and was consistent with a topped tree located along with the separated portion of the left wing. The outboard left wing tip and auxiliary fuel tank were located about 102 feet from the initial impact with trees. Adjacent to the left wing tip, a ground scar/track consistent with the left main landing gear was observed. About 10 feet north and 7 feet east of the left main landing gear track, a second ground scar / track was observed. It was consistent with the right main landing gear and extended about 46 feet to an area of upsloping terrain. Five ground scars, aligned perpendicular and centered between the left and right wheel mark ground impressions were observed and found consistent with propeller slash marks. The first slash mark was followed by a second slash mark about 21 inches north, a third slash mark about 44 inches north, a fourth about 60 inches north, and a fifth slash mark about 89 inches north of the first propeller slash mark.

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Narrative (Continued)

A crater approximately 8 to 12 inches deep, 10 feet long, and 4 feet wide was observed on the ground approximately 148 feet north of the initial cluster of broken trees. Various debris including Plexiglas, left wing structure, right main landing gear, and vortex generators were located throughout the wreckage debris path, which extended up a 45-degree slope. The fuselage and empennage were located approximately 123 feet upslope of the crater. The propeller came to rest about 76 feet north of the main wreckage. The right main landing gear was found about 253 feet north of the propeller.

Examination of the airframe revealed that the fuselage came to rest on about a 340-degree heading. A majority of the fuselage was consumed by fire. The empennage of the airplane was separated at the baggage compartment area and was found lying inverted. The elevator and rudder remained attached to their respective mounts. The outboard tips of the horizontal stabilizer and elevators were impact damaged. The outboard tip of the right elevator was separated and located within the wreckage debris path.

Rudder and elevator control cable continuity was established from the control surfaces to the cockpit controls. The right hand rudder control cable was separated about 2 feet aft of the rudder pedal torque tube attach point. The separation area was consistent with overload.

The left wing was found upside down and left of the main wreckage. The leading edge was facing the opposite direction of the debris field / initial impact heading. The left wing was separated from the fuselage. A majority of the aileron remained attached to the left wing. The outboard portion of the aileron was partially separated and remained with the outboard portion of the left wing. Aileron control cable continuity was established from the flight control surface to the cockpit controls. The left flap remained attached to its respective mounts.

The right wing was located underneath the left wing and was in an inverted position. The right wing structure was consumed by fire with the exception of the wingtip. Remains of the aileron and flap were observed near the aft part of the right wing. Aileron flight control continuity was established from the aileron to the cockpit flight controls.

The engine was partially separated from the airframe mounts. The right magneto, propeller governor, propeller assembly, exhaust, oil filter, and oil cooler were separated from the engine. All cylinders remained attached to the engine crankcase and exhibited impact related damage. The forward bottom area of the crankshaft exhibited impact related damage and exposed the forward part of the camshaft and camshaft gear. The top spark plugs, rocker box covers, vacuum pump, and left magneto were removed from the engine prior to rotating the crankshaft. The crankshaft was manually rotated using a drive tool at the mount pad which the vacuum pump was mounted to. Continuity was established from the rear of the engine throughout the engine and valve train. Thumb compression and suction was noted on all six cylinders. Equal lift movement was observed on all intake and exhaust rocker arms.

The three bladed propeller assembly was labeled A, B, and C for blade identification. Propeller blade A exhibited a bend aft towards the non cambered side about mid span of the blade. Multi directional scratches were observed on the propeller blade face. Leading and trailing edge gouging and polishing was observed throughout the blade span. Propeller blade A also exhibited an undetermined amount of blade material separated near the propeller blade tip. The propeller blade moved freely within the propeller hub.

Propeller blade B exhibited a bend aft towards the non cambered side about five inches outboard of the blade hub. Multi directional scratches were observed on the propeller blade face. Leading and trailing edge gouging and polishing was observed throughout the blade span. Propeller blade B also exhibited an undetermined amount of blade material from the propeller blade tip. The propeller blade moved freely within the propeller hub.

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Narrative (Continued)

Propeller blade C exhibited a bend aft towards the non cambered side about five inches outboard of the blade hub. Multi directional scratches were observed on the propeller blade face. Leading and trailing edge gouging and polishing was observed throughout the blade span. Propeller blade A also exhibited an undetermined amount of blade material from the propeller blade tip. The propeller blade moved freely within the propeller hub.

No anomalies were noted during the examination of the airframe or engine that would have precluded normal operation.

MEDICAL AND PATHOLOGICAL INFORMATION

The Broadwater County Coroner conducted an autopsy on the pilot on March 20, 2009. The medical examiner determined that the cause of death was "Blunt force injuries."

The FAA's Civil Aeromedical Institute (CAMI) in Oklahoma City, Oklahoma, performed toxicology tests on the pilot. According to CAMI's report, carbon monoxide, cyanide, volatiles, and drugs were tested, and had negative results.

Updated on Jul 2 2009 5:25PM

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AVIATION	Occurrer	nce Type:	: Acc	cident								
Landing Facility/Approach In	formation											
Airport Name		Air	port ID:	Air	port Elevation	Run	way Used	Runwa	y Length	n Ru	nway Width	
			ļ		Ft. MSL	_ N/A	4					
Runway Surface Type:												
Runway Surface Condition:												
NOVE												
Approach/Arrival Flown: NONE												
VFR Approach/Landing: None												
Aircraft Information												
Aircraft Manufacturer CESSNA			Model/ 180F		€S				Serial N 18051	Number 1198		
Airworthiness Certificate(s): Normal												
Landing Gear Type: Tailwheel												
Amateur Built Acft? No			ax Gross Wt.		2850 LBS Number			r of Engine	es: 1			
Engine Type: Reciprocating		Engine Manufacturer: Model/Series CONT MOTOR O-520-F								ated Power: 80 HP		
- Aircraft Inspection Information												
Type of Last Inspection	Date of Last Inspection			Time Si	nce Last Insp	ection	,	Airframe 7	Total Time			
Annual		0	08/2008				Hours				5221 Hours	
- Emergency Locator Transmitter (ELT) Information											
ELT Installed?/Type Yes / Unkno	wn	El	ELT Operated? No ELT Aided in Locating Accident Site?							No		
Owner/Operator Information												
Registered Aircraft Owner			Street Address									
Mountain Flying LLC		ŀ	City								Zip Code	
		\longrightarrow			Helena		MT 59602					
Operator of Aircraft			Street Address									
Sparky Imeson		Ī	City							State	Zip Code	
			Helena Operator Designator Code:							MT	59602	
Operator Does Business As: - Type of U.S. Certificate(s) Held: 1	Alana						perator Desig	nator Co	ide:			
Air Carrier Operating Certificate(s)												
All Garrier Operating Scramodic(s)	<i>.</i> 											
Operating Certificate:				(Operator Certific	cate:						
Regulation Flight Conducted Unde	r: Part 91: Genera	al Aviation	ı <u> </u>									
Type of Flight Operation Conducted	d: Personal											
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	AVIATI	Occurrence Type: Accident					1								
First Pilot	Information														
Name						City				St	tate	Date of Birth	Age		
On File					On File					Oı	n File	On File	64		
Sex: M	Seat Occupied	: Left	Occ	cupational Pi	lot? Yes		Certificate Number: On File								
Certificate(s): Airline Transport; Flight Instructor															
Airplane Ra	ating(s): Mult	i-engine Laı	nd; Single-e	ngine Land											
Rotorcraft/Glider/LTA: Glider															
Instrument Rating(s): Airplane															
Instructor Rating(s): Airplane Multi-engine; Airplane Single-engine; Glider; Instrument Airplane															
Current Biennial Flight Review?															
Medical Ce	rt.: Class 1	Medica	al Cert. Status	s: With Wai	vers/Limita	itions			Date	of Last N	Medical I	Exam: 03/200	3		
		This Make and Model	Airplane Single Engine	Airplane Mult-Engine	Ni	Night Ins Actual		nstrument Simulated		Rotorcraft	Glider	Lighter Than Air			
Total Time 20045															
Pilot In Con	nmand(PIC)														
Instructor															
Instruction	Received														
Last 90 Day	ys					+									
Last 30 Day	·														
Last 24 Ho		<u> </u>					1								
Seatbelt Us	ed? Yes	Shou	ılder Harness	Used? Yes			Toxicol	logy Perl	ormed? `	Yes	S	econd Pilot? N	lo		
Flight Pla	n/Itinerary														
Type of Flig	ght Plan Filed: N o	one													
Departure F	Point						State Airp		Airport Identifier		Departure Time		Time Zone		
Bozeman							MT BZ		BZN		1411		MDT		
Destination							State Airg		Airport Identifier				•		
Helena							МТ		illN						
Type of Cle	earance: None						•	•			•				
Type of Air	space:														
Weather	Information														
Source of \	Wx Information:														
	Interne	et													
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AVIATION				Occurrence Type: Accident										
Weather	Information													
WOF ID	Observation Time	Time Zone	T wc	DF Elevati	on	WOF D	istance Fr	om Accid	dent Site		Direction F	From Accident	Site	
											2.100.101.11.101.11.101.11.11.11.11.11.11			
HLN	1453	MDT		3877 Ft.	MSL				22 NM		300 Deg. Mag.			
Sky/Lowes	t Cloud Condition: Few				4	4800 Ft. /	AGL	Condition of Light: Day						
Lowest Ce	iling: Overcast		5500 Ft.	0 Ft. AGL Visibility: 10				SM	Alti	timeter: 30.13 "Hg				
Temperatu		7 °C Weather Conditions at Accident Site: Visual Conditions												
Wind Direc	ction: 260	Wind Sp	eed: 18			Wind	d Gusts: 2	25						
Visibility (R	RVR): Ft.	Visibility	(RVV)		SM									
Precip and/or Obscuration: No Obscuration; No Precipitation														
Accident Information														
Aircraft Dar	mage: Substantial		А	ircraft Fire			Aircraft Exp	olosio	n None					
			,											
- Injury Sui	mmary Matrix	Fatal	Serious	Mino	ır	None	TOTAL							
First Pi	lot	1						1						
Second	d Pilot													
Studen	t Pilot													
Flight I	nstructor													
Check	Pilot													
Flight E	ngineer							\neg						
Cabin A	Attendants							\neg						
Other C	Crew													
Passen	igers													
- TOTAL A	ABOARD -	1						1						
Other C	Ground							7						
- GRAND	TOTAL -	1						1						
					·									

National Transportation Safety Board

FACTUAL REPORT AVIATION

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Investigator-In-Charge (IIC)

Joshua Cawthra

Additional Persons Participating in This Accident/Incident Investigation:

William Thomas Federal Aviation Administration Helena, MT

Jan Smith Cessna Aircraft Company Wichita, KS

Rodney Martinez Teledyne Continental Motors Mobile, AL